DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 13.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-001821
Date Inspected: 25-Mar-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Oregon Iron Works Clackamas, Or.

OSM Arrival Time: 900
OSM Departure Time: 1025
Location: Clackamas, OR

CWI Name: Greg Roberts

Inspected CWI report:	☐ Yes	☐ No	☑ N/A	**CWI Present:**	☑ Yes	☐ No		
Electrode to specification:	☐ Yes	☐ No	☑ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A	
Qualified Welders:	☐ Yes	☐ No	☑ N/A	**Weld Procedures Followed:**	☐ Yes	☐ No	☑ N/A	
Approved Drawings:	☐ Yes	☐ No	☑ N/A	**Verified Joint Fit-up:**	☐ Yes	☐ No	☑ N/A	
				Approved WPS:	☐ Yes	☐ No	☑ N/A	
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A	

Bridge No: 34-0006
Component:

Summary of Items Observed:

The Caltrans Quality Assurance Inspector (QA) arrived at the Oregon Iron Works (OIW) Clackamas location to verify the accuracy of the Lincoln 1000 Power Wave welding machine.

The Caltrans QA had a Megger DCM204R and a Fluke 337 clamp type meters to check the welding machines meters for Amperage. Mr. Greg Roberts of OIW also had a fluke 337 during the observation. The Caltrans QA observed that all three meters were reading approximately the same amperages. It was agreed that the readings from the three meters were in the same range. However the welding machine was reading in average 20 to 25 amperes higher while running at 700 amperes. The readings were within 5 to 10 amps while running the machine at 500 amps.

Mr. Roberts had made the statement that conventional amp meters would not work on the square wave machine being used during the Procedure Qualification Record (PQR) being performed at OIW. The Caltrans QA started researching this claim and found it to be not true. The manufactures recommended clamp probe is the MEGGER DCM204R. The Caltrans QA found that this probe has been discontinued and that Lincoln does not at this time have another clamp probe to recommend for use of checking the accuracy of the Power Wave 1000. The lincoln representative that the Caltrans QA spoke with is Robert Hasan at 216-383-8598. The lincoln representative stated that he would send an email with the newest info on this subject.

The data sheet for the Fluke 337 states that it can accurately measure the square wave output. Fluke has stated that a true RMS meter will read the square wave accurately.

The Caltrans QA has concerns about the amps and volts being recorded for PQR CS-025 and CS-027 for the Hinge K beam project of the SAS.

Mr. Roberts is still in disagreement with Caltrans checking and questioning their welding machine readouts. It was explained that Caltrans QA inspectors will ramdomly check parameters on the welders on the different shifts

during production of the Hinge K beam.
This problem should be considered during the review of PQR's for approval within the WQCP.

Summary of Conversations:

As stated in the body of this report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Wright,Mark	Quality Assurance Inspector
Reviewed By:	Mertz,Robert	QA Reviewer